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Cicadellidae (Hemiptera) collected by Darwin at the Cape of Good Hope, South Africa, with description of a related species

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Cicadellidae collected by Darwin near Cape Town during the visit of the 'Beagle', were identified as *Kaapia darwini* gen. et spec. nov. and *Caffrolix cyclopia* (Cogan) comb. nov. These and a related new species *Kaapia longistylus* are described and figured.

Six specimens of Cicadellidae, collected by Charles Darwin when the 'Beagle' called at Cape Town in June 1836, were recently located by me in the British Museum, London. The entry in Darwin's collecting notes, which refers to the numbers 3688 and 3690 on the specimens, reads: 'Small insects sweeping in valleys of mountains near Simons Bay. June.' The additional reference number (1885–119) on the specimens is merely a Museum accessions number referring to the register entry when the collection was received. The material consists of two species which, together with a related species, are described below.

I wish to thank Mr K. G. V. Smith of the British Museum (who is preparing a publication on Darwin's 'Beagle' insects) for the information on the reference numbers and Dr W. J. Knight and Mr M. D. Webb for the loan of the specimens.

KAAPIA gen. nov.

Type-species: *Kaapia darwini* spec. nov.

Brachypterous leafhoppers with head markedly wider than pronotum (fig. 1). Crown anteriorly produced, V-shaped and somewhat longer than pronotum and angled with face (fig. 3); discal region smooth, slightly sunken; frontal region coarsely shagreened. Each ocellus separated from adjacent eye by distance about four times its diameter. Coronal suture short. Frontoclypeus broad, with indistinct horizontal arcs; anteclypeus parallel-sided (fig. 2). Genae notched below eyes. Ocellocular region three times wider than gena below lorum. Lateral margins of pronotum very short; disc rugolose. Tegmina coriaceous, no appendix and venation indistinct. Hind wings much reduced. Spinulation of fore tibiae 1 + 4; hind femoral setal formula 2 + 2 + 1.

Pygofer middorsally incised for about 2/3 its length by articular membrane of anal tube; 10th tergite well sclerotized. Pygofer lobes triangular and setose. Plates triangular, with few short macrosetae. Valve triangular. Aedeagus symmetrical, tubular;

gonopore subapical on ventral side. Style with long, falcate apophysis and distinct preapical process (fig. 8). Connective articulating with socle; basal arms V-shaped.

This genus belongs to the tribe Athysanini (Aphrodinae), but is apparently not closely related to other known genera.

Kaapia darwini spec. nov., figs 1–11

MALE. Length from apex of crown to hind margin of tegmina 2,60–2,74 mm, to tip of abdomen 2,93–3,04 mm. Transocular width 1,28–1,32 mm. Greatest width of pronotum 1,12–1,16 mm. Dorsum uniformly yellowish-green in colour; pleural and sternal regions of thorax, as well as first four abdominal sterna, with fuscous marks.

Each pygofer lobe with about 12 short macrosetae and many smaller setae (fig. 4). Plates with 4 or 5 small macrosetae, which are more or less uniseriate (fig. 10). Shaft of aedeagus somewhat flattened dorsoventrally, but apex, beyond gonopore, compressed and bearing pair of small teeth (figs 6 & 7). Stem of connective rather long and basal arms fairly close together (fig. 5). Apophysis of style (figs 8 & 9) long, thin, with ventrally curving apex, minute serrations and few microsetae (right style abnormally flattened in Darwin's specimen).

FEMALE. Length from apex of crown to hind margin of tegmina 2,44–2,68 mm, to apex of abdomen 2,76–3,16 mm. Transocular width 1,22–1,32 mm. Greatest width of pronotum 1,06–1,20 mm. Seventh abdominal sternite undulate (fig. 11) or sometimes fairly straight behind.

MATERIAL EXAMINED. SOUTH AFRICA: Cape Province: ♂ Holotype, Cape Point, 4.iii.1978, J. G. Theron. In S.A. Museum, Cape Town. Paratypes: 3 ♂ and 1 ♀ same data; 1 ♂ and 1 ♀ Cape of Good Hope (3690), C. Darwin; 1 ♀ Cape of Good Hope (3688), C. Darwin; 1 ♀ Camps Bay, Cape Peninsula, 1–20.x.1920, R. E. Turner; 1 ♂ and 3 ♀ Kommetjie, 19.ii.1971, J. G. Theron. In British Museum, S.A. Museum and Stellenbosch University Collection.

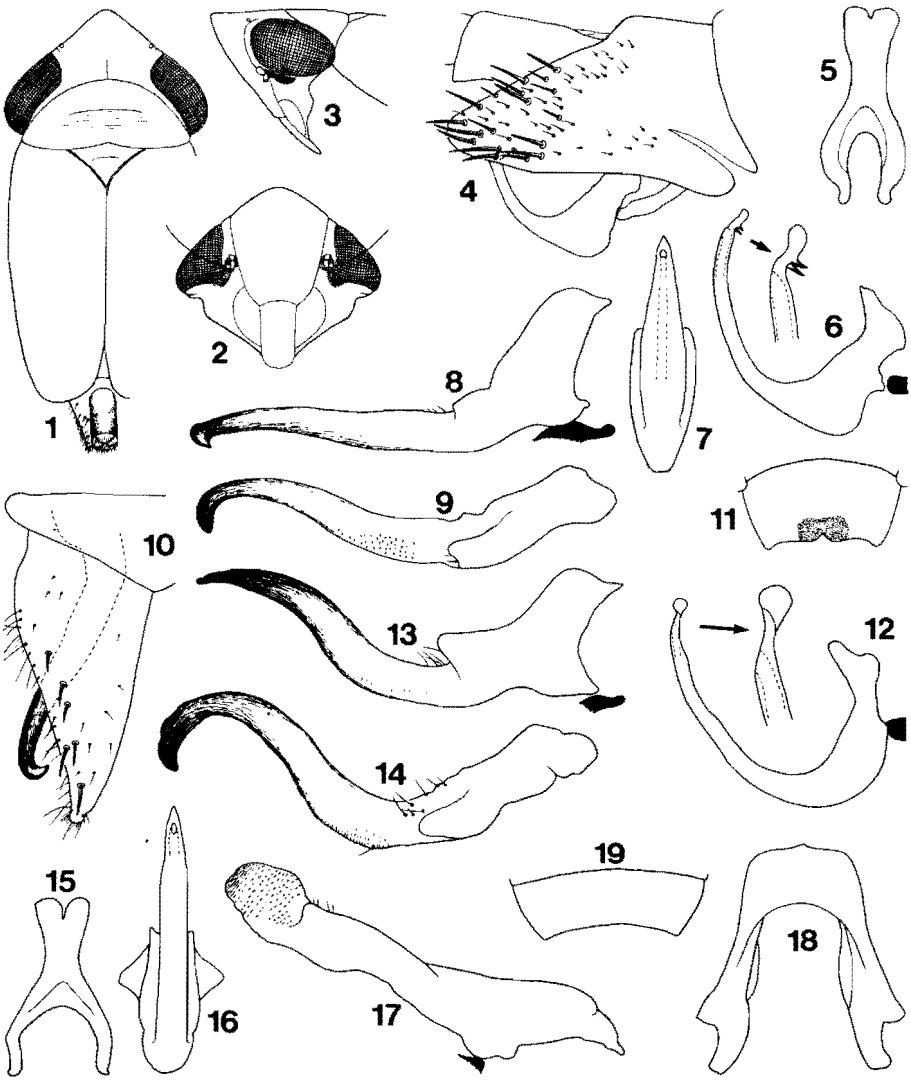
Kaapia longistylus spec. nov. figs 12–16

MALE. Length from apex of crown to hind margin of tegmina 2,44–2,68 mm, to tip of abdomen 2,76–3,16 mm. Transocular width 1,22–1,32 mm. Greatest width of pronotum 1,06–1,20 mm. Colouration as in *darwini*.

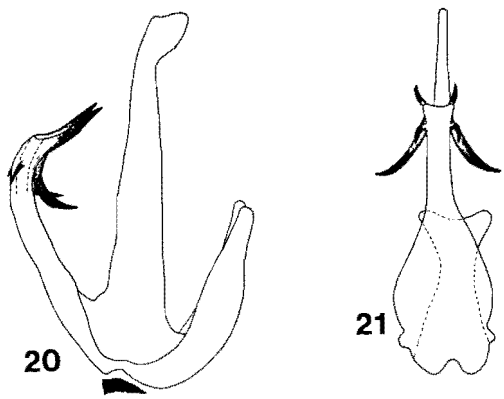
Pygofer lobes somewhat broader than in *darwini*. Shaft of aedeagus narrow, almost tubular throughout; apically with compressed lobe but no teeth (figs 12 & 16). Socle laterally with wing-like extensions. Stem of connective shorter than in *darwini* and basal arms more widely separated (fig. 15). Apophyses of styles more massive than in *darwini* and apices more strongly curved (figs 13 & 14).

FEMALE. Length from apex of crown to hind margin of tegmina 2,86–3,00 mm, to tip of abdomen 3,62–4,00 mm. Transocular width 1,32–1,44 mm. Greatest width of pronotum 1,20–1,32 mm. Hind margin of 7th abdominal sternite as in *darwini*.

MATERIAL EXAMINED. SOUTH AFRICA: Cape Province: ♂ Holotype, De Hoop, Bredasdorp, 6.i.1978, J. G. Theron. In S.A. Museum, Cape Town. Paratypes: 4 ♂ and ♀ same data; 1 ♂ and 2 ♀ Pearly Beach, 15.xii.1971, J. G. Theron. In British Museum, S.A. Museum and Stellenbosch University Collection.



Figs 1–19. *Kaapia darwini* gen. et spec. nov. 1–10. ♂ Holotype. 1. Dorsal view. 2. Face. 3. Lateral view of head. 4. Pygofer, lateral view. 5. Connective. 6 & 7. Aedeagus, lateral and ventral views, with apex enlarged. 8 & 9. Style, ventral and lateral views. 10. Plate and valve, ventral view. 11. Seventh abdominal sternite of ♀. 12–16. *K. longistylus* spec. nov., ♂ Holotype. 12. Aedeagus, lateral view, with apex enlarged. 13 & 14. Style, ventral and lateral views. 15. Connective. 16. Aedeagus, ventral view. 17–19. *Caffrolix cyclopia* (Cogan). 17. Style, ventral view. 18. Connective, ventral view. 19. Seventh abdominal sternite of ♀.



Figs 20–21. *Caffrolix cyclopia* (Cogan), aedeagus, lateral and ventral views.

The external features of this species are very similar to those of *darwini* but it can be recognized by the distinctive shape of the aedeagus, connective and styles.

Caffrolix cyclopia (Cogan), comb. nov., Figs 17–21

Athysanus cyclopia Cogan, 1916: 191

Euscelis cyclopia Naudé, 1926: 58

MALE. Brachypterous. Length from apex of crown to hind margin of tegmina 2,60–3,22 mm, to tip of abdomen 2,69–3,29. Transocular width 1,12–1,36 mm. Greatest width of pronotum 1,04–1,30 mm. Colour quite variable; brownish, with darker brown patches on tegmina.

Pygofer lobes very similar to those of *C. patruelis* (Stål); also lacking medially projecting process. Plates usually with 7–9 uniseriate macrosetae, but setae sometimes somewhat scattered. Shaft of aedeagus tubular, with apical gonopore; subapically with pair of short teeth and apically with two pairs of long, fairly variable appendages: upper pair usually fairly straight (Figs 20 & 21), but apices curving ventrally in some specimens; base of shaft with long, laterally compressed process. Connective large (Fig. 18). Styles as in Fig. 17, with apophyses almost reaching hind margins of plates.

FEMALE. Usually brachypterous. Length from apex of crown to hind margin of tegmina 2,88–3,16 mm, to tip of abdomen 3,00–3,32 mm. Transocular width 1,20–1,38 mm. Greatest width of pronotum 1,12–1,26 mm. Hind margin of 7th abdominal sternite as in Fig. 19.

MATERIAL EXAMINED. Cogan (1916) described this species from a single female (ostensibly collected by C. W. Mally and labelled Cape Town, C.G.H., 9.xii.1900), which is housed in the South African Museum, Cape Town. Darwin's specimens consist of one male (in poor condition) and two females, all collected at the

Cape of Good Hope. Numerous additional specimens collected at the following localities in the southern and southwestern parts of the Cape Province were also examined: Cape Point, Kommetjie, Chapman's Peak, Camps Bay, Table Mountain, Kirstenbosch, Cape Flats, Melkbosstrand, Bellville, Koelenhof, Muldersvlei, Jonkershoek (Stellenbosch), Koeël Bay, Grabouw, Ceres, Baardskeerdersbos, Cedarberg (Clanwilliam), Albertinia, Tsitsikamma Forest, Prince Alfred Pass, Avontuur, Kareedouw. The species appears to be confined to the fynbos.

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